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urge it as a suitable term to adopt into general usage.

A second term or expression, to which the writer desires to call attention, is the phrase *transmitting power,* to apply to the faculty which an individual organism has of transmitting its individual peculiarities to its progeny. This expression the writer has used in his papers for several years past,* but is not aware that it has been used in this connection by other writers, although it may have been, as it is an expression that would naturally suggest itself to any one thinking on this subject. *Prepotency* has been generally used in this sense, but this word has three well-recognized different meanings, namely,

1. The faculty which an individual has of transmitting its individual qualities to its progeny without variation or reversion, meaning in this case the strength of its hereditary power.

2. The faculty which one species has of dominating another, with which it is crossed, in transmitting its characters.

3. The faculty which one kind of pollen sometimes possesses in being more potent in producing fecundation and offspring than another.

The first of these meanings is that for which the writer uses the expression *transmitting power.* Professor Hays, of the University of Minnesota, uses the expression (*centgener*) power in a similar manner, but this expression seems hardly applicable for use in any case other than where breeding is being conducted according to the centgener system used by him.

In pedigree and grade breeding the transmitting power of the individual is the factor of prime importance that must be discovered by carefully following the performance of each individual in its progeny.

HERBERT J. WEBBER.
PLANT BREEDING LABORATORY,
DEPARTMENT OF AGRICULTURE.

A NEW SPHEROIDAL GRANITE.

GRANITES and diorites, among the deep seated rocks, occasionally develop spheroidal or orbicular structures which are objects of considerable interest to petrographers, and which are exceptional and striking anomalies among the results of crystallization from fusion. Viewed merely as curiosities they would be of only moderate importance, but furnishing, as they do, an illustration of the order in which rock-making minerals separate from the molten magma and gather in aggregates of regular structure, they are the more worthy of attention. The best known of them have been met in Europe, notably at Fonni in Sardinia; Wirvik, Finland; Slättmossa in Sweden; and especially from Corsica, whose beautiful, spheroidal diorite has found a place in all the larger geological museums of the world. In America they are, if anything, less common. One granite, however, has been met in a boulder at Quonochontogue Beach, near Westerly, R. I., which compares favorably in perfection with those of Europe. A less perfect diorite has also been described from Rattlesnake Bar, El Dorado Co., California.

Last spring the writer came into possession of specimens of an exceedingly striking spheroidal rock, which had been discovered in a glacial boulder, by Mr. Horatio P. Parmelee, near Charlevoix, Mich., a town on Lake Michigan in the northwestern portion of the Lower Peninsula. The boulder was several feet in diameter and the largest piece in the possession of the writer is about fifteen inches wide by twenty inches long by eight inches thick. Through the middle runs a pegmatite vein five inches broad, but consisting of the same minerals as those in the spheroids. In fact, several of the spheroids pass imperceptibly into the pegmatite, their outer halves being normal and well-marked and their inner portions passing gradually into the latter.

The distinct spheroids are two to three inches across, and are usually ellipsoidal in shape, although nearly perfect spheres are not lacking. As is the general experience with these rocks the flattened ellipsoids suggest compression due either to flowing movements while the rock was yet plastic or else to dynamic crushes subsequent to consolidation,

* Yearbook, U. S. Department of Agriculture, 1902, p. 369.

the latter being from other evidence less probable.

The spheroids are a brilliant white in color and resemble albite alone, but the microscopic examination reveals considerable orthoclase in addition to the plagioclase, and also much quartz. The quartz fills interstices between the feldspars. The extinction of the plagioclase upon flakes parallel with the basal pinacoid is so slight that the species is in large part oligoclase, but the thin sections give ground for believing albite also to be present and possibly varieties even more basic than oligoclase. The reflections which are given by some broken nodules show that in instances much the greater portion consists of a single feldspar crystal. Others have but few, relatively large individuals; and still others are radiating aggregates. Where the constituent feldspars are coarse and few the core is marked by a few flakes of black biotite irregularly disseminated. They then cease and the main mass of the nodule is feldspar. Even the core may itself practically fail, the nodule becoming a mere ellipsoid of feldspar.

Where the core is well developed it is due to a considerable richness either of biotite or hornblende, both having been observed, but each in different spheroids. They may, however, and probably do occur together. Well-marked rings of biotite or hornblende may also appear half way or two thirds the way from the center to the circumference.

There is no marked outer border to the nodules such as appears in other cases, the contrast being due to the fact that the general matrix is a very dark aggregate of biotite, hornblende, the two feldspars and quartz. The dark minerals are in very large amount, so that the brilliant white nodules stand out with great distinctness.

It appears from the relations of the minerals that the dark silicates first crystallized, together with some feldspar and quartz, and formed the cores. Next followed a period of formation of little else than feldspar and quartz, varied occasionally by a slight separation of the dark silicates. Finally the residue, greatly impoverished by the loss of so much of the feldspathic material, crystallized as the dark matrix.

During the crystallization the pegmatitic streak also formed, and along its borders developed in part as half spheroids. It does not appear to be a phenomenon subsequent to the development of the nodules, and is not very sharply delimited from the spheroidal rock.

The home of the boulder lies somewhere to the north, probably in Ontario, but, so far as known to the writer, no similar rocks have yet been recorded in this region. Acknowledgments are due, in closing, to Professor A. W. Grabau, through whose kind offices the material was secured.

J. F. KEMP.
COLUMBIA UNIVERSITY.

PRESENT KNOWLEDGE OF THE DISTRIBUTION OF DAIMONELIX.

Daimonelix when first discovered, in 1891, was thought to be confined to the elevated tablelands of central Sioux County, Nebraska. In the meantime its range has been extended and it is now known almost throughout the entire Arikaree formation, a tract probably about five hundred miles in diameter, situated in Nebraska, Kansas, South Dakota, Wyoming and Colorado. The more fibrous forms of *Daimonelix* constitute a character so constant as to justify the name Fibrous Arikaree for the upper half of the formation. The writer has traced these fossils as represented by the fibrous forms as far south as Benkleman, on the Kansas-Nebraska line, as far east as Fullerton and Long Pine, Nebraska; as far north as Eagle Nest Butte and White Clay Butte, in the Sioux Indian Reservation in South Dakota; and as far west as Lusk, Guernsey and Bates Hole, in Wyoming. Well-authenticated reports would include northeastern Colorado, but those places only are mentioned which have been visited personally by the writer. *Daimonelix* proper is much more restricted than are the fibrous forms. However, its range has been extended beyond the highlands of central Sioux County as far west as Lusk, Wyoming, and as far east as Eagle Nest Butte, South Dakota.